



PATENT

Attorney Docket No. RES2000.14A

Applicant: MARK S. FRATER
Serial No.: 09/945,125
Filed: AUGUST 30, 2001
Title: LAMINATED ENTRY AND EXIT MATERIAL FOR DRILLING PRINTED CIRCUIT
BOARDS
Group:
Examiner:

**BOX NON FEE
ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231**

INFORMATION DISCLOSURE STATEMENT

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

1. ☒ Preliminary Statements
2. ☒ FORM PTO-1449 (Modified)
3. ☒ Statement As To Information Material To Examination Not Found In Patents Or Publications
4. ☐ Identification Of Prior Application In Which Listed Information Was Already Cited And For Which No Copies Are Submitted Or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☒ Concise Explanation of Non-English Language Listed Information Items
8. ☐ Translation(s) of Non-English Language Documents
9. ☒ Identification of Person(s) Making This Information Disclosure Statement

Section 1. Preliminary Statements

Applicants submit herewith patents, publications or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR 1.56.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 CFR 1.56(g)), an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Section 2. PTO Form 1449 (modified)

FORM 1449 IS BEING SUBMITTED HEREWITH IN 6 PAGE(S).

Section 3. Stat ment As To Information Material To Examination Not Found In Patents Or Publications (Information not listed in PTO-1449)

1. THE APPLICANT IS THE PRESIDENT OF R.E. SERVICE CO. (RES). IN JULY 1996, RES SOLD A LAMINATE FOR MAKING PRINTED CIRCUIT BOARDS COMPRISING A SHEET OF COPPER BONDED TO A SHEET OF STAINLESS STEEL APPROXIMATELY 5 MILS THICK, USING GAPPED ADHESIVE DEPOSITS POSITIONED ALONG THE PERIMETER OF THE LAMINATE INTERIOR OF THE EDGE. THE CTE OF THE STAINLESS STEEL WAS APPROXIMATELY 9.8. IN MAY/JUNE 1997, RES FIRST SOLD A SIMILAR PRODUCT COMPRISING A SHEET OF COPPER BONDED TO A SHEET OF NICKEL PLATED CARBON STEEL USING GAPPED ADHESIVE DEPOSITS POSITIONED ALONG THE PERIMETER OF THE LAMINATE INTERIOR OF THE EDGE. THE CTE OF THE CARBON STEEL WAS APPROXIMATELY 7.2. BOTH PRODUCTS HAD A SURFACE FINISH (ROUGHNESS) OF 17 RMS OR GREATER.

2. IN THE 1987-1988 TIME FRAME, RES SOLD CARBON STEEL TO ZYCON CORPORATION SO THAT ZYCON CORPORATION COULD MOVE AWAY FROM USING 0.062 INCH STAINLESS STEEL SHIMS. THE CARBON STEEL WAS APPROXIMATELY 0.025 TO 0.030 INCHES THICK, WAS NOT PLATED, AND WAS REUSABLE. ZYCON CORPORATION IN TURN USED THAT CARBON STEEL AS SEPARATOR IN WHICH COPPER SHEETS WERE ATTACHED TO THE SEPARATOR BY THE USE OF MAGNETS IN THE CORNERS. CARBON STEEL WAS USED BECAUSE STAINLESS STEEL WAS NOT MAGNETIC. THE MAGNETS WERE PULLED OUT BEFORE THE LAMINATE WAS PLACED IN THE PRESS. BECAUSE THE CARBON STEEL WAS PRONE TO CORROSION, ZYCON SPRAYED THE CARBON STEEL WITH A FREECOAT RELEASE AGENT PRIOR TO LAMINATION TO RESIST CORROSION. THE PLATES WERE THEN CLEANED AND RESPRAYED PRIOR TO REUSE.

Section 4. Identification of Prior Application in Which Listed Information Was Already Cited and For Which No Copies Are Submitted Or Need Be Submitted

Note: "A copy of any patent, publication or other information listed in an information disclosure statement is not required to be provided if it was previously cited by or submitted to the office in a prior application, provided that the prior application is properly identified in the statement and relied upon for an earlier filing date under 35 U.S.C. 120." 37 CFR 1.98(d).

WARNING: While a copy of a non-English language item of information need not be submitted if it was previously submitted to or cited by the Office in a prior application, provided it is properly identified in this statement and this application relies on that earlier filing date under 35 U.S.C. 120, nevertheless, the requirement in § 1.98(a)(3) for a concise explanation of non-English language information **would not** be satisfied by a statement that a reference was cited in the prosecution of a parent application. The concise explanation must explain the relevance as presently understood by the person designated in § 1.56(c) most knowledgeable about the content of the information. Notice of January 9, 1992, 1135 O.G. 13-25, at 20.

Section 5. Cumulative Patents or Publications

NOTE: "When the disclosure of two or more patents or publications listed in an information disclosure statement are substantially cumulative, a copy of one of the patents or publications may be submitted without copies of the other patents or publications provided that a statement is made that these other patents or publications are cumulative." 37 CFR 1.98(c).

STATEMENT

_____ is cumulative of the following patents or publications listed on Form PTO-1449
(modified):

In accordance with 37 CFR 1.98(c) a copy of only _____ is being submitted with this information disclosure statement.

Section 6. Copies of Listed Information Items Accompanying This Statement

NOTE: 37 CFR 1.98(a)(2) requires that any information disclosure statement filed under § 1.97 shall include: "A legible copy of: (i) Each U.S. and foreign patent; (ii) Each publication or that portion which caused it to be listed; and (iii) All other information or that portion which caused it to be listed, except that no copy of a U.S. patent application need be included ..."

NOTE: The wording in § 1.98(a)(2)(iii) makes it clear that the requirement to submit a copy of each item of information listed in an information disclosure statement does not apply to the citation of a U.S. patent application. Notice of January 9, 1992, 1135 O.G. 13-25, at 14.

Legible copies of all items listed accompany this information disclosure statement.

___ Exception(s) to above

___ **Items in prior application from which an earlier filing date is claimed for this application as identified in Section 4.**

___ Cumulative patents or publications identified in Section 5.

It is respectfully stipulated, however, that none of these references teach or render obvious, singly or when considered in combination, applicant's claimed invention. This citation does not constitute an admission that the references are relevant or material to the claims nor that a search has been made; the references are cited only as constituting the closest art of which the applicant is aware.

Section 7. Concise Explanation of Non-English Language Listed Information Items

- NOTE:** "A concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the information of each patent, publication, or other information listed that is not in the English language **shall** be included in any information disclosure statement filed under § 1.97. "The concise explanation may be either separate from the specification or incorporated therein." 37 CFR 1.98(a)(3).
- NOTE:** "[T]he explanation required is limited to the relevance as understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information at the time the information is submitted to the Office." Notice of January 9, 1992, 1136 O.G. 13-25, at 14.
- NOTE:** "Where the information listed is not in the English language, but was cited in a search report by a foreign patent office, the requirement for a concise explanation of relevance is satisfied by submitting an English language version of the search report." Notice of January 9, 1992, 1136 O.G. 13-25, at 14.
- NOTE:** "The concise explanation requirement for non-English language information may be met by submission of an English language version of the search report indicating the degree of relevance found by the foreign office." Notice of January 9, 1992, 1136 O.G. 13-25, at 20.
- WARNING:** "The requirement in § 1.98(a)(3) for a concise explanation of non-English information **would not** be satisfied by a statement that a reference was cited in the prosecution of a parent application." Notice of January 9, 1992, 1136 O.G. 13-25, at 20 (emphasis added).

JA NO. 2-291191 DISCLOSES A SUBSTRATE MADE BY LAMINATING METAL FOIL ON ONE SIDE OR BOTH SIDES OF A HEAT RESISTING PLASTIC FILM WITH THERMOSETTING ADHESIVE, SETTING THE ADHESIVE, AND SURFACE TREATING THE LAMINATED METAL SURFACE BY LOW TEMPERATURE PLASMA OF INORGANIC GAS.

JA NO. 2-310041 DISCLOSES A MULTILAYERED LAMINATE STRUCTURE.

JA NO. 2-58885 DISCLOSES A MULTILAYERED LAMINATE STRUCTURE.

JA NO. 52-5353 DISCLOSES COPPER FOIL HAVING ALUMINUM FOIL FIRMLY ADHERED TO ITS UPPER SURFACE LAPPED ONTO A BASE PLATE, AND COPPER POWDER DISPERSED ON THE ALUMINUM FOIL TO GIVE A SPECIFIED COPPER DENSITY. THE COMPOSITE IS THEN TREATED BY HEATING AND PRESSING.

JA NO. 62-208915 DISCLOSES A MULTILAYERED LAMINATE STRUCTURE.

JA NO. 4-186798 DISCLOSES A MULTILAYER PRINTED CIRCUIT BOARD.

DE NO. 28 43 263 DISCLOSES A MULTILAYERED LAMINATE STRUCTURE HAVING A SHEET FOR USE AS A BLANK FOR A PRINTED CIRCUIT BOARD CONSISTING OF A CARRIER PLATE ON WHICH A COPPER LAYER HAS BEEN APPLIED, THE COPPER LAYER HAVING A LIGHT RESISTANT COATING TO PROTECT THE COPPER LAYER, AND AN ALUMINUM LAYER.

DE NO. 31 31 688 DISCLOSES A MULTILAYERED LAMINATE STRUCTURE.

EP NO. 299-454 DISCLOSES A MULTILAYERED LAMINATE STRUCTURE WITH ADHESIVE BONDED LAYERS.

THE FOLLOWING TWO (2) REFERENCES ARE NOT IN ENGLISH, BUT THE ENGLISH LANGUAGE VERSION OF THE RELEVANT SEARCH REPORT IS SUBMITTED INDICATING THE DEGREE OF RELEVANCE FOUND BY THE FOREIGN OFFICE. (PCT/US99/07795)

DE NO. 41 16 543 DISCLOSES A MULTILAYERED COPPER FOIL ADDED LAMINATE STRUCTURE.

DE 297 19 716 U DISCLOSES A MULTILAYERED LAMINATE STRUCTURE.

Section 8. Translation(s) of Non-English Language Documents

NOTE: "If a written English language translation of a non-English language document, or portion thereof is within the possession, custody or control of, or is readily available to any individual designated in § 1.56(c), a copy of the translation shall accompany the statement." 37 CFR 1.98(c).

NOTE: "The Office does not intend to require translations unless they have been reduced to writing and are actually translations of what is contained in non-English language information. Applicants should note, however, that most examiners do not have the ability to understand information which is not English and the that Office will not routinely translate information submitted in a non-English language. The examiner will consider the information insofar as it is understood on its face, e.g., drawings, chemical formulas, English-language abstracts, but will not have the information translated unless it appears to be necessary to do so. Applicants are required to aid the examiner by complying with the requirements of a concise explanation in § 1.98(a)(3) for information submitted in a non-English language." Notice of January 9, 1992, 1135 O.G. 13-25, at 21.

 X No English language translations of the foreign language patents, publications or information or parts thereof are readily available, except for those listed above.

 The following foreign language documents submitted are believed to be the equivalent or substantial equivalent of the English language documents identified below, which are also submitted herewith.

 Submitted herewith is an English language translation of the following foreign patents, publications or information or of those portions of those patents, publications or information considered to be material:

Section 9. Identification of Persons Making This INFORMATION DISCLOSURE STATEMENT

The person making this statement is the attorney who signs below on the basis of:


☒ the information supplied by the inventor(s)

☒ the information in the attorney's file

Dated: 10/16/01

Reg. No.: 33,201

Tel. No.: (916) 498-1010



SIGNATURE OF ATTORNEY

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CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)Applicant(s): **MARK S. FRATER**

Docket No.

RES2000.14A

Serial No.

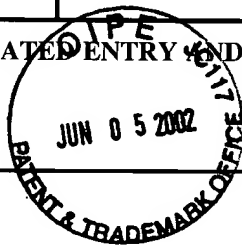
09/945,125

Filing Date

AUGUST 30, 2001

Examiner

Group Art Unit

Invention: **LAMINATED ENTRY AND EXIT MATERIAL FOR DRILLING PRINTED CIRCUIT BOARDS**I hereby certify that this **Information Disclosure Statement (Page 1 thru 10)***(Identify type of correspondence)*

is being deposited with the United States Postal Service as first class mail in an envelope addressed to: The

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*(Date)***JOHN P. O'BANION***(Typed or Printed Name of Person Mailing Correspondence)*
*(Signature of Person Mailing Correspondence)***Note: Each paper must have its own certificate of mailing.**

CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)Applicant(s): **MARK S. FRATER**

Docket No.

RES2000.14A

Serial No.

09/945,125

Filing Date

AUGUST 30, 2001

Examiner

Group Art Unit

Invention: **LAMINATED ENTRY AND EXIT MATERIAL FOR DRILLING PRINTED CIRCUIT BOARDS**I hereby certify that this **PTO-1449 (Page 1 thru 6)**

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